

What Is Claimed Is:

1. A method of training a mobile station location identification system, comprising:
 - decoding a first unique identifier for a cell in communication with a mobile station at a first location and a first time;
 - storing the first unique identifier and the first time;
 - decoding, upon handoff to a next cell, at a second location and at a second time, a second unique identifier for the next cell; and
 - storing the second unique identifier and the second time.
2. The method of claim 1, further comprising:
 - calculating a travel time for travel between the first location and the second location, comprising subtracting the second time from the first time to yield the travel time.
3. The method of claim 2, further comprising:
 - storing the travel time for travel between the first location and the second location.
4. The method of claim 3, wherein the stored travel time is indexed to a segment bounded by the first location and the second location.
5. The method of claim 1, wherein the unique identifier is a Cell Tower Identification Number.
6. The method of claim 1, wherein the unique identifier is a Base Station Identifier.
7. The method of claim 3, wherein the travel time is stored in the mobile station.

8. The method of claim 3, wherein the travel time is stored in a server.
9. The method of claim 1, further comprising, deleting the stored travel time upon receipt of a signal from the mobile station.
10. A method of training a mobile station location identification system, comprising:
decoding a first unique identifier for a cell in communication with the mobile station at a first location;
transmitting the first unique identifier to a database;
receiving, at the database, at a first time, the first unique identifier;
storing, at the database, the first time and the first unique identifier;
decoding, upon handoff to a next cell, at a second location, a second unique identifier for the next cell;
transmitting the second unique identifier to the database;
receiving, at the database, at a second time, the second unique identifier; and
storing, at the database, the second time and the second unique identifier.
11. The method of claim 10, further comprising:
calculating a travel time for travel between the first location and the second location, comprising subtracting the second time from the first time to yield the travel time.
12. The method of claim 11, further comprising:
storing the travel time for travel between the first location and the second location in the database.

13. The method of claim 12, wherein the stored travel time is indexed to a segment bounded by the first location and the second location.
14. The method of claim 10, wherein the unique identifier is a Cell Tower Identification Number.
15. The method of claim 10, wherein the unique identifier is a Base Station Identifier.
16. The method of claim 10, wherein the database is located in the mobile station.
17. The method of claim 10, wherein the database is located in a server.
18. The method of claim 10, further comprising, deleting the stored travel time from the database upon receipt of a signal from the mobile station.
19. A method of calculating an estimated time of arrival of a mobile station at a segment endpoint, of a segment having a startpoint and an endpoint, comprising:
 detecting the startpoint of the segment at a first time;
 storing the first time;
 calculating an estimated time of arrival at the endpoint of the segment, comprising:
 retrieving a stored travel time for travel along the segment from a database, wherein the stored travel time is derived using a method comprising:
 decoding a first unique identifier for a cell in communication with a mobile station at the startpoint and a start time;
 storing the first unique identifier and the start time;
 decoding, upon handoff to a next cell, at the endpoint and at an end time, a second unique identifier for the next cell;

storing the second unique identifier and the end time;
subtracting the end time from the start time and storing a
result as the stored travel time; and

adding the stored travel time and the first time to yield the
estimated time of arrival of the mobile station at the endpoint of the segment.

20. The method of claim 19, wherein the database is located in the mobile
station.

21. The method of claim 19, wherein the database is located in a server.

22. The method of claim 19, wherein the estimated time of arrival of the
mobile station at the endpoint of the segment is calculated at the mobile station.

23. The method of claim 19, wherein the estimated time of arrival of the
mobile station at the endpoint of the segment is calculated at the server.

24. The method of claim 19, wherein the stored travel time includes
statistical data to use in the calculation of the estimated time of arrival.

25. The method of claim 24, wherein the statistical data includes variance
due to time of day in stored travel times for travel along the segment.

26. The method of claim 24, wherein the statistical data includes variance
due to day of year in stored travel times for travel along the segment.

27. A method of calculating an estimated time of arrival of a mobile station at
a segment endpoint, of a segment having a startpoint and an endpoint,
comprising:

detecting the startpoint of the segment at a first time;

storing the first time;

calculating an estimated time of arrival at the endpoint of the segment, comprising:

retrieving a stored travel time for travel along the segment from a database; and

adding the stored travel time and the first time to yield the estimated time of arrival of the mobile station at the endpoint of the segment.

28. The method of claim 27, wherein the database is located in the mobile station.

29. The method of claim 27, wherein the database is located in a server.

30. The method of claim 27, wherein the estimated time of arrival of the mobile station at the endpoint of the segment is calculated at the mobile station.

31. The method of claim 27, wherein the estimated time of arrival of the mobile station at the endpoint of the segment is calculated at the server.

32. The method of claim 27, wherein the stored travel time includes statistical data to use in the calculation of the estimated time of arrival.

33. The method of claim 32, wherein the statistical data includes variance due to time of day in stored travel times for travel along the segment.

34. The method of claim 32, wherein the statistical data includes variance due to day of year in stored travel times for travel along the segment.

35. A method of calculating an estimated time of arrival of the mobile station at the endpoint of a segment, the segment one of a plurality of segments, each of the plurality of segments having a startpoint and an endpoint, comprising:

detecting the startpoint of one of the plurality of segments at a first time;
and

calculating an estimated time of arrival at the endpoint of the segment,
comprising:

retrieving a stored travel time for travel along the segment from a
database; and

adding the stored travel time and the first time to yield the
estimated time of arrival at the endpoint of the segment.

36. The method of claim 35, wherein the database is located in the mobile
station.

37. The method of claim 35, wherein the database is located in a server.

38. The method of claim 35, wherein the estimated time of arrival at the
endpoint of the segment is calculated at the mobile station.

39. The method of claim 35, wherein the estimated time of arrival at the
endpoint of the segment is calculated at the server.

40. A method of calculating an approximate location of a mobile station
traveling along a recurrent route of travel, the recurrent route of travel divisible
among a plurality of segments, each of the plurality of segments having a
startpoint and an endpoint, comprising:

detecting the startpoint of one of the plurality of segments at a first time;
and

calculating the approximate location of the mobile station based on the
geography of the recurrent route and a travel time from the first time.

41. The method of claim 40, wherein the approximate location of the mobile
station is calculated at the mobile station.

42. The method of claim 40, wherein the approximate location of the mobile station is calculated at the server.

43. A system for calculating an approximate location of a mobile station along a recurrent route of travel between a first location and a second location, comprising:

- a first cellular base station, to provide cellular coverage to the mobile station in a geographic area including the first location;

- a second cellular base station, to provide cellular coverage to the mobile station in an area including the second location;

- a database, to store a previously measured time of travel of the mobile station from the first location to the second location; and

- a processor, to calculate the approximate location of the mobile station along the recurrent route of travel between the first location and the second location using the previously measured time of travel stored in the database.

44. The system of claim 43, wherein the approximate location is calculated in terms of time to reach the second location.

45. The system of claim 43, wherein the approximate location is calculated in terms of time from the first location.

46. A system for calculating an approximate location of a mobile station along a recurrent route of travel between a first location and a second location, comprising:

- a mobile station;

- a database, operatively coupled to the mobile station, to store a previously measured time of travel of the mobile station from the first location to the second location; and

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a processor, operatively coupled to the mobile station, to calculate the approximate location of the mobile station along the recurrent route of travel between the first location and the second location using the previously measured time of travel stored in the database.

47. The system of claim 46, wherein the approximate location is calculated in terms of time to reach the second location.

48. The system of claim 46, wherein the approximate location is calculated in terms of time from the first location.

49. The system of claim 46, wherein the mobile station comprises the database and the processor.

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